



Project Manager Combined Arms Tactical Trainers

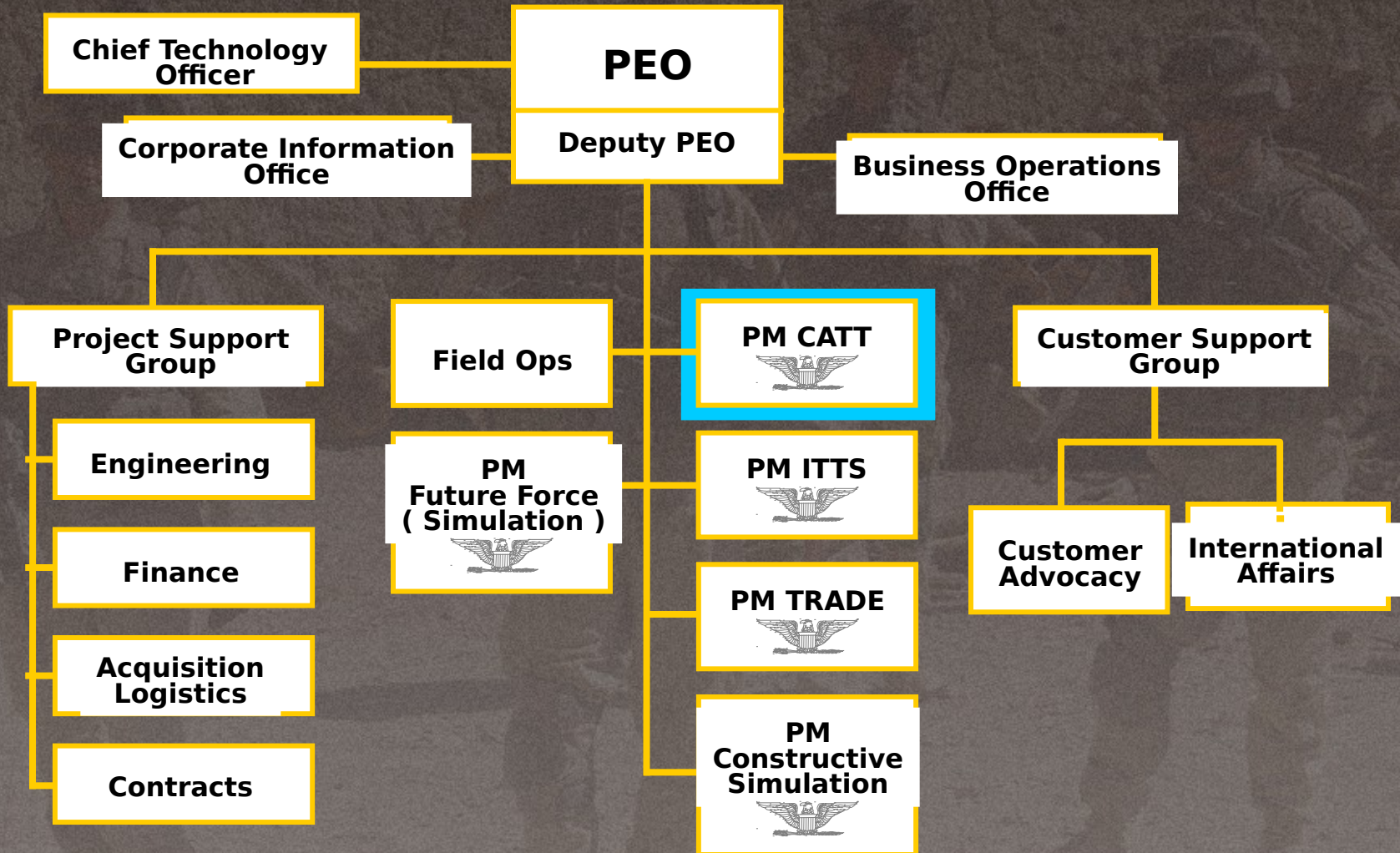
Advance Program Briefing to Industry

***Kevin S. Noonan
Project Manager***





PEO STRI Organization





Project Manager Combined Arms Tactical Trainers

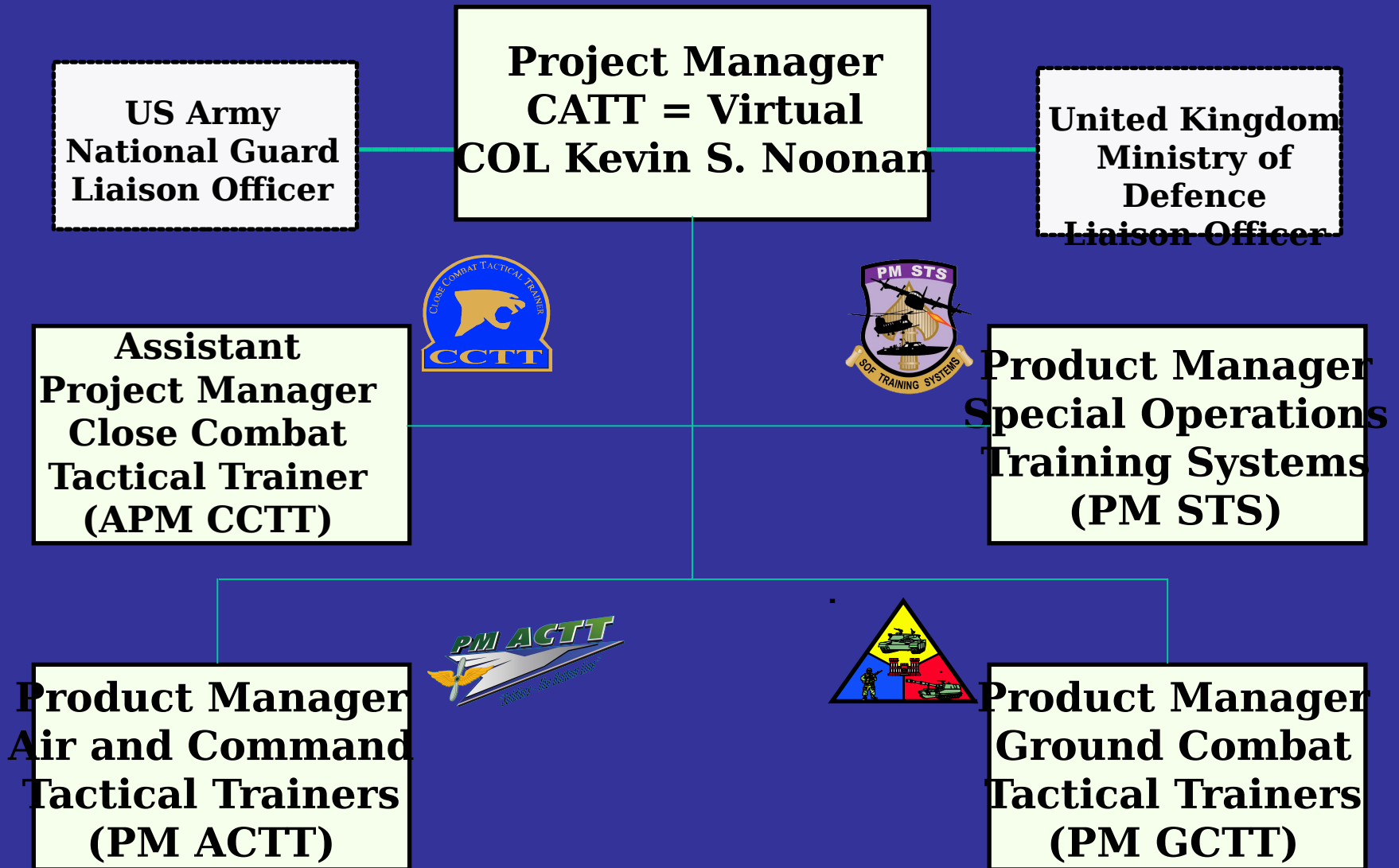


Mission

**Acquire, Field, and Life Cycle Manage the
Virtual Synthetic Environment and
Interoperable Training Aids, Devices,
Simulators, and Simulations (TADSS) to
Support Individual, Institutional, and
Collective Training Requirements for the
Current and Future Force.**



PM CATT Organization





PM CATT Support to Army PM's



GROUND COMBAT SYSTEMS



MLRS



SHORAD



SANG



SOLDIER



BCT



Army Watercraft



**PEO
Aviation**



Utility Helicopters



**Cargo
Helicopter**



**Attack
Helicopter**



**Scout Attack
Helicopters**



CATT Support to TRADOC Schools



Armor

Ft. Knox, KY



Artillery

Ft. Sill, OK



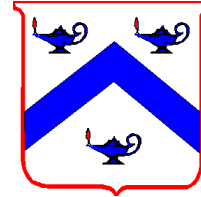
Infantry

Ft. Benning, GA



MANCEN

Ft. Leonard Wood,
MO



Combined Arms Center

Ft. Leavenworth,
KS



USAANVC

Ft. Rucker, AL



Air Defense

Ft. Bliss, TX



Transportation

Ft. Eustis, VA



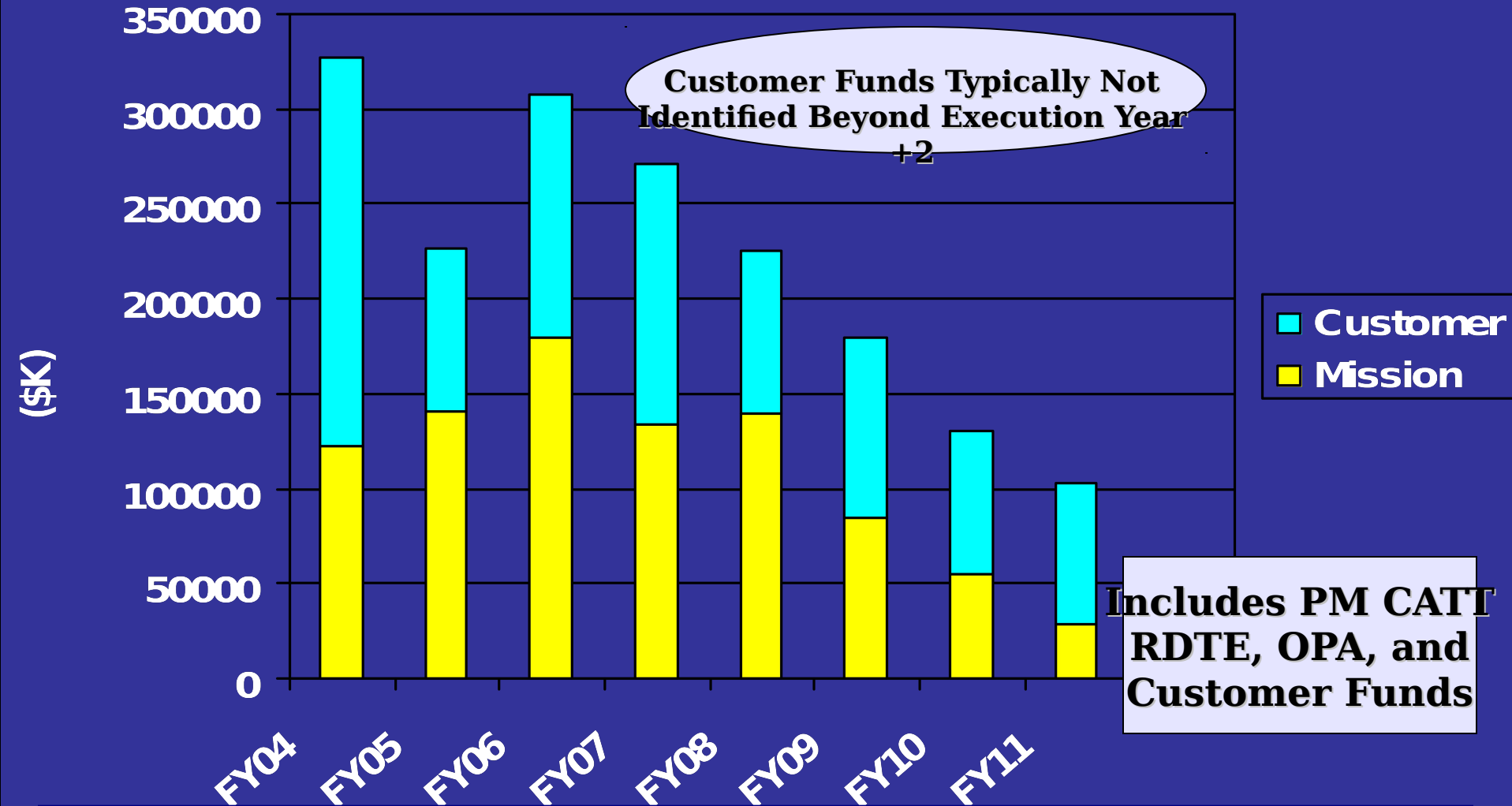
JMCATTOO CATT Support to Other Organizations



JFCOM



PM CATT Finance Summary



Customer Funding Reflects Comanche Cancellation but Does Not Reflect Anticipated New Work for Other



PM CATT



Mission Program Examples

Close Combat Tactical Trainer - ACAT II

Synthetic Environment Core

Soldier Combined Arms Tactical Trainer

Aviation Combined Arms Tactical Trainer -

Aviation Reconfigurable Manned Simulator

Enhanced Tower Simulator (ETOS)

Improved Moving Target Simulator

Basic Electronics Maintenance Trainer

Engagement Skills Trainer 2000 (EST)

Call For Fire Trainer

Laser Marksmanship Training System (LMTS)

CCTT

SE Core

Soldier-CATT

AVCATT-A

ETOS

IMTS

BEMT

EST 2000

CFFT

LMTS




PM CATT



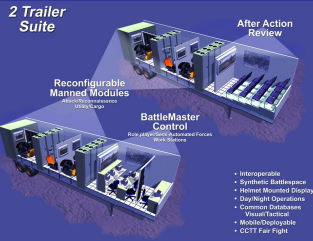
Customer Program Examples

AH 64A CMS	AH 64A CMS
LSMP (CH-47D) - Lift Simulator Modernization Program	LSMP (CH-47D)
LSMP (UH-60A/L) - Lift Simulator Modernization Program	LSMP (UH-60A/L)
Additional BlackHawk Flight Simulator	ABHFS
Maritime Integrated Training System	MITs
SABOT (Bradley Advanced Training System (BATS)	SABOT (BATS)
Recognition of Combat Vehicles - Virtual (ROC-V)	ROC-V
SIMNET Re-Host for NGB	SIMNET Re-Host
STRYKER Mobile Gun Sys Adv Gunnery Tng System	MGS AGTS
STRYKER Anti-Tank Guided Missile Basic Skills Trainer	ATGM BST
STRYKER Remote Weapons Station Table Top Trainer	RWS TTT
STRYKER (Common) Driver Trainer	DT
STRYKER Maintenance Training System	MTS
Abrams Desktop/Hands-On Maintenance Trainers	DT/HOT
Advanced Gunnery Training System	AGTS
COFT-Advanced Gunnery Training System	C-AGTS
Guard Unit Device Full-Crew Interactive Simulation Trainer	GUARDFIST II
Light Assault/Attack Reconfigurable (LASAR) Combat Mission Simulator	LAAR CMS
MH-47G & MH-60 Combat Mission Simulators	MH-47G & MH-60 CMS
Special Operations Aviation (SOA) Combat Mission Simulator	SOA CMS
SOF Air Ground Interface Simulator (SAGIS)	SAGIS
Special Tactics Air Traffic Control Site Support (STATC)	STATC
Special Operations Forces Operator User Station (SOUS)	SOUS
Special Reconnaissance Simulator (SRS)	SRS
FMS Czech Rep GUARDFIST II	FMS Czech
FMS EGYPT	
FMS KUWAIT	
FMS SANG	
FMS SAUDI	

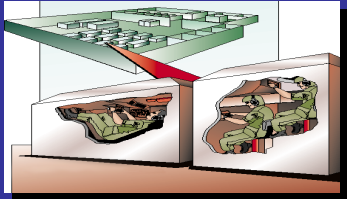


Today  *Tomorrow*

Collective/Combined Arms/Specialty Tasks



- Interoperable
- Synthetic Battlespace
- Heterogeneous Displays
- Day/Night Operations
- Common Database
- Visual/Tactical
- Multi-Displayable
- CCTT Fair Fight

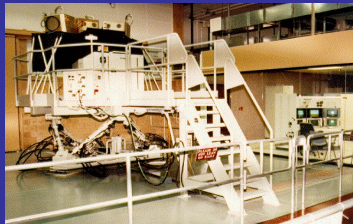


Embed In
Tactical Systems

Seamless Interfaces
Across
Virtual, Constructive & Live



Specialty and Focused Training Tasks





PM CATT Focus Areas



- **Interoperability Design and Solutions**
- **Visual Systems - Smaller, Faster, Cheaper**
 - **Helmet Mounted Display Technologies**
- **Embedded Technologies and Concepts**
- **Semi-Automated Force Capabilities**
- **Rapid Database Generation and Updates**
- **Cross-Domain, Multi-Service and Joint**



Assistant Project Manager (APM) Close Combat Tactical Trainer (CCTT)



Mission: Provide Focused Management of the Close Combat Tactical Trainer (CCTT) Program To Meet Program Cost, Schedule, and Performance Requirements and to Produce a Reusable Synthetic Environment For Future CATT and Other Virtual Training Systems



APM CCTT Customer Base



Army PMs



GROUND COMBAT SYSTEMS

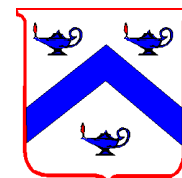


BCT



SOLDIER

Other Customer s



TRADOC



Combined Arms Center

Ft. Leavenworth, KS

Ft. Knox, KY

Artillery

Ft. Sill, OK

Infantry

Ft. Benning, GA

MANCEN

Ft. Leonard Wood, MO

Air Defense



APM CCTT Current and Future Projects

<u>Project</u>	<u>Contractor</u>	<u>Sub</u>
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Current:

CCTT Production	LMSTS	Cubic, RGB
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SIMNET Upgrade	Cubic	Acusoft
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CCTT Software Support	AST	SAIC, E&S
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Future:

Soldier-CATT	TBD
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SE Core	TBD
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Soldier - Combined Arms Tactical Trainer (Soldier CATT)



Soldier-CATT will provide a dismount-centric, combined arms, collective training capability to prepare soldiers and leaders to fight effectively throughout the full spectrum of military operations in the



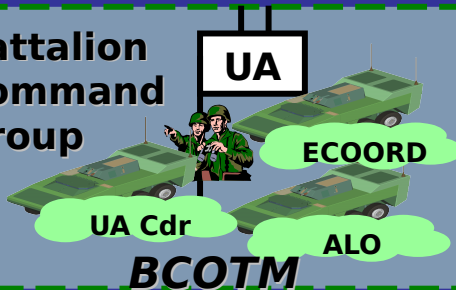
Soldier - Combined Arms Tactical Trainer (Soldier CATT)



Semi-Automated Forces Workstations



Battalion Command Group



Soldier-Leader Simulator "Virtual Warrior"



Reconfigurable Vehicle Simulators



Gunner positions added for MGS, ATGM, and BFV

Multifunctional Workstation



Terrain Databases

- ✓ Kosovo
- ✓ Central Germany
- ✓ NTC
- ✓ Ft Hood
- ✓ Korea
- ✓ Grafenfels
- ✓ Ft Riley
- ✓ (Terrain DBs already available in CCTT)
- Urban Operations
- SBCT Home Stations
- JRTC
- Infantry, Ranger, SOF
- Caspian Sea

Master Control Console/ AAR Workstations 3-D VISUALIZATION

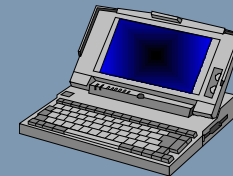


Exercise Initialization Files

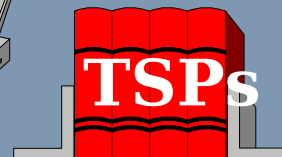


Rapid Structured Offsite Scenario Development

Exercise Development



CITT*



*CITT - Commander's Integrated Train



Soldier - Combined Arms Tactical Trainer (Soldier CATT)



Description/Requirement

What We Have

**Prototype Virtual
Warrior**

**Prototype
Reconfigurable
Desktop**

What We Need

**Immersive, Combined
Arms
Virtual Environment**

**Complex MOUT
Representation**

**Interoperability with
Other Simulation
Systems**

Portable, Self-



Soldier - Combined Arms Tactical Trainer (Soldier CATT)



Acquisition Strategy

- **Development with Production Follow-On**
- **Unique Solicitation Requirements**
 - **Reuse of OneSAF & Virtual Databases**
 - **Integration of Land Warrior**
 - **Portable system; No fixed facilities**
 - **Interoperability (Live, Virtual, & Constructive)**
- **Potential Component Breakout**

Contract: TBD

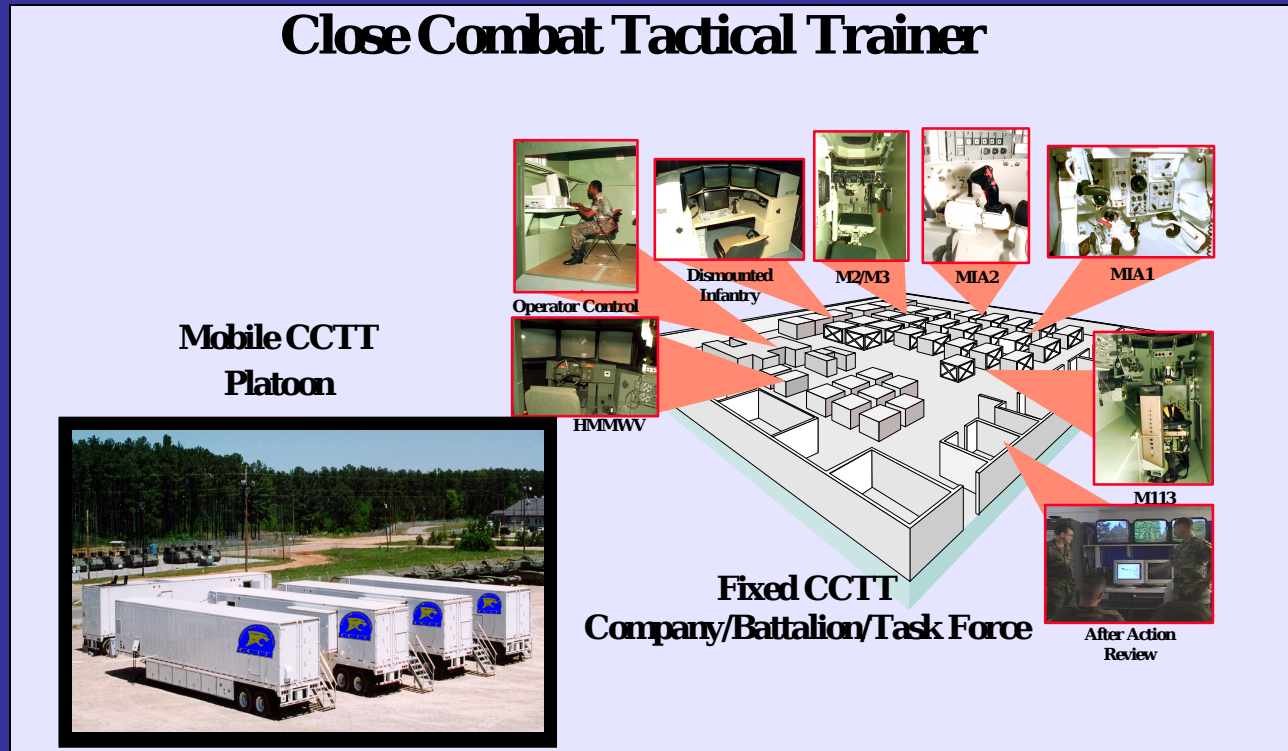
Value: > \$200M

RFP: 4QFY05

CA: 1QFY06



Close Combat Tactical Trainer



CCTT is the first member of the Combined Arms Tactical Trainer (CATT) family of virtual, distributed interactive simulations (DIS) for collective training. It supports the training of Armor, Mechanized Infantry, and Cavalry units



Close Combat Tactical Trainer

Description/Requirement

What We Have

Fixed and Mobile CCTT Sites

Operational System in Production And Support

What We Need

Weapon System Concurrency

Reconfigurable Generic Simulator

Live and Constructive Connectivity

Joint training interoperability



Close Combat Tactical Trainer



Acquisition Strategy

- Upgrade to CCTT radio hardware to support Vehicle Intercom System functionality
- Gated Training Support Package development
- CCTT Interface to Air Force Simulations
- Live-Virtual-Constructive Simulation Interoperability
- Reconfigurable Generic Simulator to Support Variant Configurations
- Software Support (GSA/8A Set-

Contract: STC

Value: > \$200

RFP: Multiple

**CA: Multiple
Awards**



Synthetic Environment (SE) C



Overarching Strategy and Implementation of a Virtual Simulation Environment and Integrated/Interoperable Simulation Products Consistent with the Army's Live, Virtual, and Constructive Integrating Architecture to Fully



Synthetic Environment (SE) CC



Description/Requirement

What We Have

**Virtual
Simulation
Databases**

**Virtual Training
Support
Packages**

What We Need

**Integration of OneSAF
into All Virtual
Simulations**

**Common, Rapid
Terrain Database
Generation Process**

**Common TSPs for
Virtual Training**

Interoperability With



Synthetic Environment (SE) CC



Acquisition Strategy

FY05 - STOC Contracts

- **Common Database Generation Contract: STOC**
- **OneSAF Integration into Virtual Sims**
- **Cross Domain Interoperability RFP: Multiple**
- **Common Training Support Packages CA: Multiple**

FY06 - STOC Contracts

- **Long Haul Connectivity**



Product Manager SOF Training Systems (PM STS)



**Develop, Field, and Sustain High
Quality**

**Virtual Training Devices for
Special Operations Forces that Meet
or Exceed our Warfighters'**





PM STS Customer Base





PM STS Current and Future Projects

Current Projects Subs

Prime Contractor

- | | | |
|--|---------|----------|
| • MH-47/MH-60M CMS | CAE USA | SEOS Ltd |
| • AH/MH-6M Light Assault/Attack Reconfigurable (LASAR) | CAE USA | |
| • Special Operations Forces Air Fidelity, SOAR | NLX LCC | EBC, |
| Ground Interface Simulator | | Tech, |
| SDS (SAGIS) | | |
| • Special Operations Forces Operator User Station (SOUS) | NLX LCC | SDS |
| • Special Reconnaissance Simulator (SRS) | NLX LLC | |

Future Projects



Special Operations Forces Air Ground

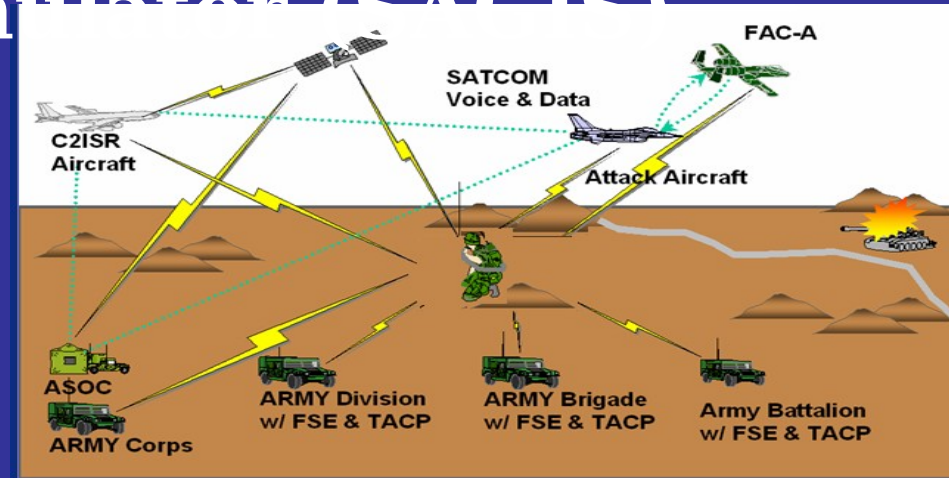


Interface Simulator (SACIS)

Interactive, multimedia, instructional simulation system to provide realistic Air Traffic Control (ATC) and Terminal Attack Control (TAC) training and Mission Rehearsal in a distributed

interactive model level training designed for personnel who have completed Basic ATC training

- TAC -- terminal guidance control for airborne weapons delivery on pre-planned and immediate targets
 - Call-for-fire from Army and Navy weapons delivery
 - Conduct Joint Close Air Support (JCAS)
 - Conduct landing zone operations
- Mission Rehearsal -- plan, preview, rehearse, and evaluate specific operational missions
- Deliver 2 Prototype Systems in 3QFY05





Special Operations Forces Air Ground



Interface Simulator (SAGIS) Acquisition Strategy

- **Prototype Development
Contract Awarded 2QFY04**
- **Leverage other Virtual
Simulators**
- **Production of 26 Systems
in 2 Lots (POM 06
Initiative)**

**Contract:
STOC**

Value: \$50M

RFP: 4QFY05

**Award:
2QFY06**



Special Recon Simulator

This technology project was initiated to investigate and demonstrate advanced simulation and training technologies to perform Special Reconnaissance Missions.

Key areas of research are in the display, tactile interface, and simulated military equipment.
Requirements

- **Field of view 270 x 200 degrees (threshold), 360 degree sphere (objective) with day, night, IR and FLIR device.**
- **Capability to observe, record and report on waterway, rail, road, highway, trail and airfield traffic.**
- **Must portray friendly, enemy, allied and civilian vehicles, personnel, equipment, ships, boats, submarines and all types of aircraft.**





Special Recon Simulator Acquisition Strategy

- Development Contract Awarded 2QFY04**
- Subcontracting Opportunities May Exist With The Prime Contractor (NLX LLC)**



Product Manager



Ground Combat Tactical Trainers



MISSION: Develop, Field, and Sustain High Quality Ground Combat and Homeland Defense Virtual Training Devices that are Joint, Interoperable Focused, and Meet or Exceed our Warfighter and First



PM GCTT Customer Base



Army PMs



GROUND COMBAT SYSTEMS



MLRS



SHORA



SANG



BCT



SOLDIER



Other Customer

S



TRADOC Schools



Armor

Ft. Knox, KY



Artillery

Ft. Sill, OK



Infantry

Ft. Benning, GA



MANCEN

Ft. Leonard Wood, MO



Air Defense

Ft. Bliss, TX



PM GCTT Current and Future Projects

- **Product/Program Acquisitions in PM GCTT:**

PM Acquisitions:	Contractor	SUB
• AGTS	Lockheed Martin STS	
• MTS (Abrams, Bradley, Metters)	RTI	Raydon, HIMARS)
• STRYKER MTS	NLX	
• EST 2000	CUBIC SSD	FATS, Inc.
• LMTS	Beamhit	
• FSCATT	L3COM	
• GF II/CFFT	Fidelity Technologies	
• Abrams Tank Driver Trainers	Lockheed Martin STS	
• STRYKER Variant/Common Driver Trainer		TBD (in source selection)
• AFIST XXI	Raydon	
• C-AGTS	CSC Pulau OASIS	Lockheed Martin STS,
• AB FIST	Raydon	
• COFT XXI	Raydon	
• STRYKER MGS AGTS	Lockheed Martin STS	
• ROCV	Under GOVT ARDEC	

- **Future Acquisitions:**

- **VERTS**



Virtual Emergency Response Training System (VERTS)



Provide an exercise support capability for Emergency Responders and the Incident Command System (ICS) on military installations and for military responders that provide support to civil authorities.

Contract efforts may be consolidated or



Virtual Emergency Response Training System (VERTS)



Description/Requirement

WHAT WE NEED

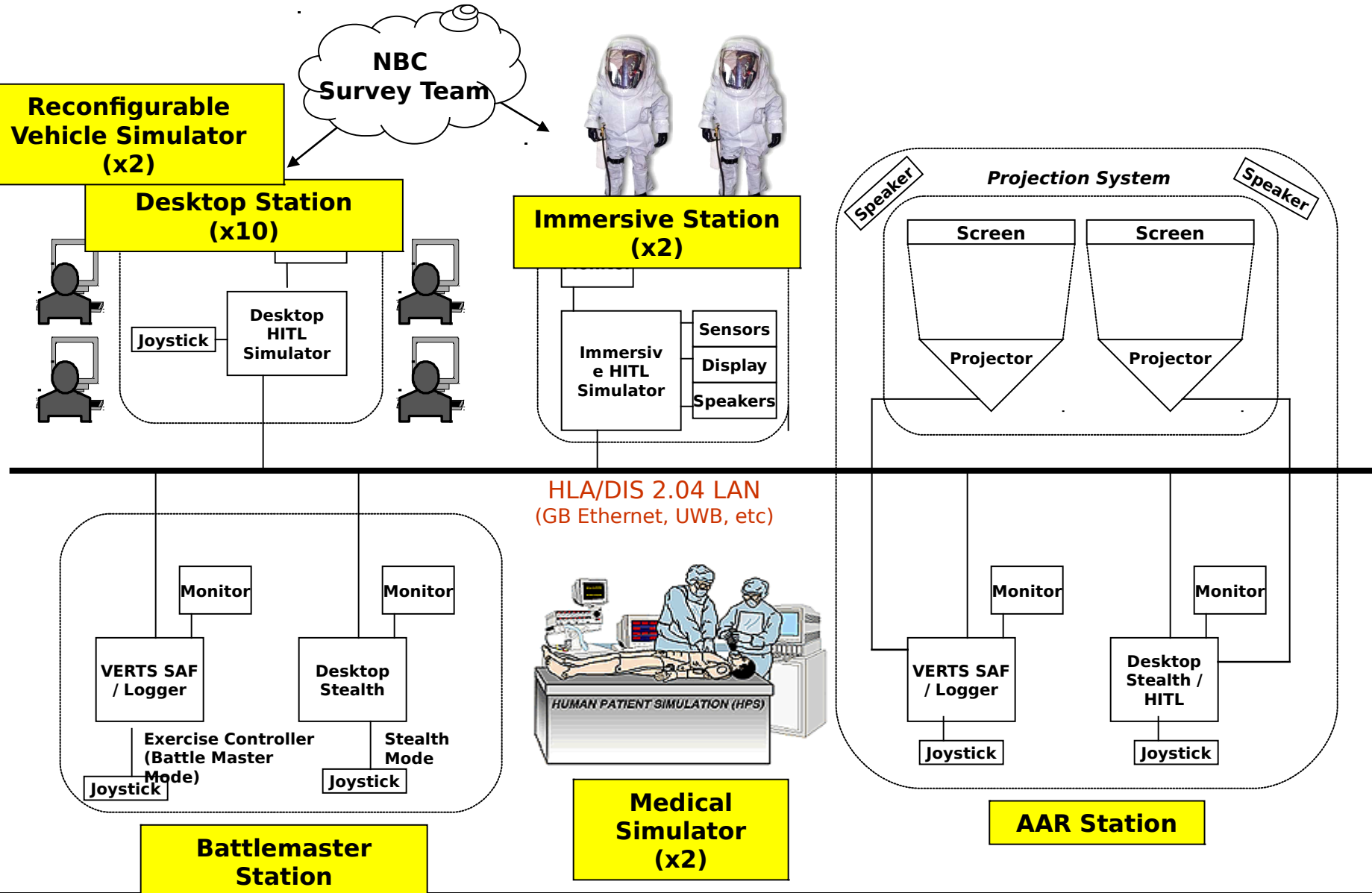
WHAT WE HAVE

No current capability is available to train the military installation "First Responder" and "Incident Commander".

Exercise Support Capability for "First Responders" and "Incident Commanders" on military installations and for the military first responders that provide support to civil authorities under the



Virtual Emergency Response Training System (VERTS)





Virtual Emergency Response Training System (VERTS)



Acquisition Strategy

- “First Responder” & “Incident Commander” training capability
- Homeland Defense mission training capability (Civil Support Teams (CST))
- Leverage and integrate the Integrated MOUT Training System (IMTS)

Contract: TBD

Value: \$2M - 150

RFP: TBD

CA: TBD



Product Manager Air and Command Tactical Trainers

PM ACTT



**Develop, Field, and Sustain High Quality
Air and Command Virtual Training
Devices that are Joint, Interoperability-
Focused, and Meet or Exceed our**





PM ACTT Customer Base



Army PMs



**PEO
Aviation**



**Cargo
Helicopter**



Utility Helicopters



**Attack
Helicopter**



**Scout Attack
Helicopters**



Army Watercraft

Other Customer s



TRADOC



USAANVC
Ft. Rucker, AL



Transportation
Ft. Eustis, VA



**Air
Defense**
Ft. Bliss, TX



ACTT Current and Future Projects

Current Projects: Contractor Sub

Additional Black Hawk Simulators (ABHFS) **NLX** **CATI, SEOS,**
Binghamton
Simulator Co.

AH-64A Apache combat Mission Simulator **NGMS** **CAE**
(CMS)

Aviation Combined Arms Tactical Trainer-L3 COM DSCI, Kaiser
Aviation Reconfigurable Manned Electro Optical
Simulator

Lift Simulator Modernization Program (LSMP) **NLX** **CATI, SEOS,**
Binghamton
Simulator Co.

Maritime Integrated Training Program **CSC**

Future Acquisitions:

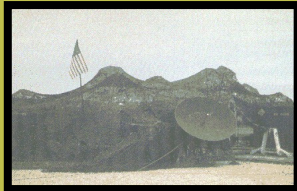
Armed Recon Helicopter (ARH)/ Light Utility Helicopter
(LUH) Simulators

TBD



Aviation Combined Arms Tactical Trainer - Aviation Reconfigurable Manned Simulator (AVCATT-A)

Aviation Collective Training



Conventional TOC



Digitized TOC

Manned Simulators



Apache AH-64



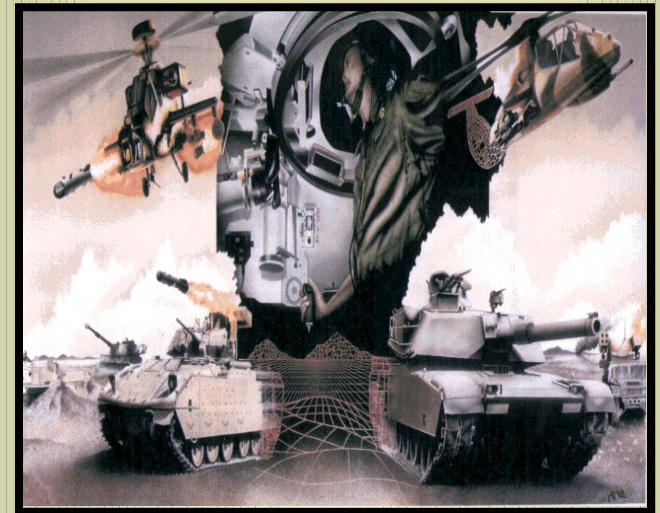
Chinook CH-47



Longbow AH-64D

**AVN
Transformation
Aircraft**

Synthetic Environment



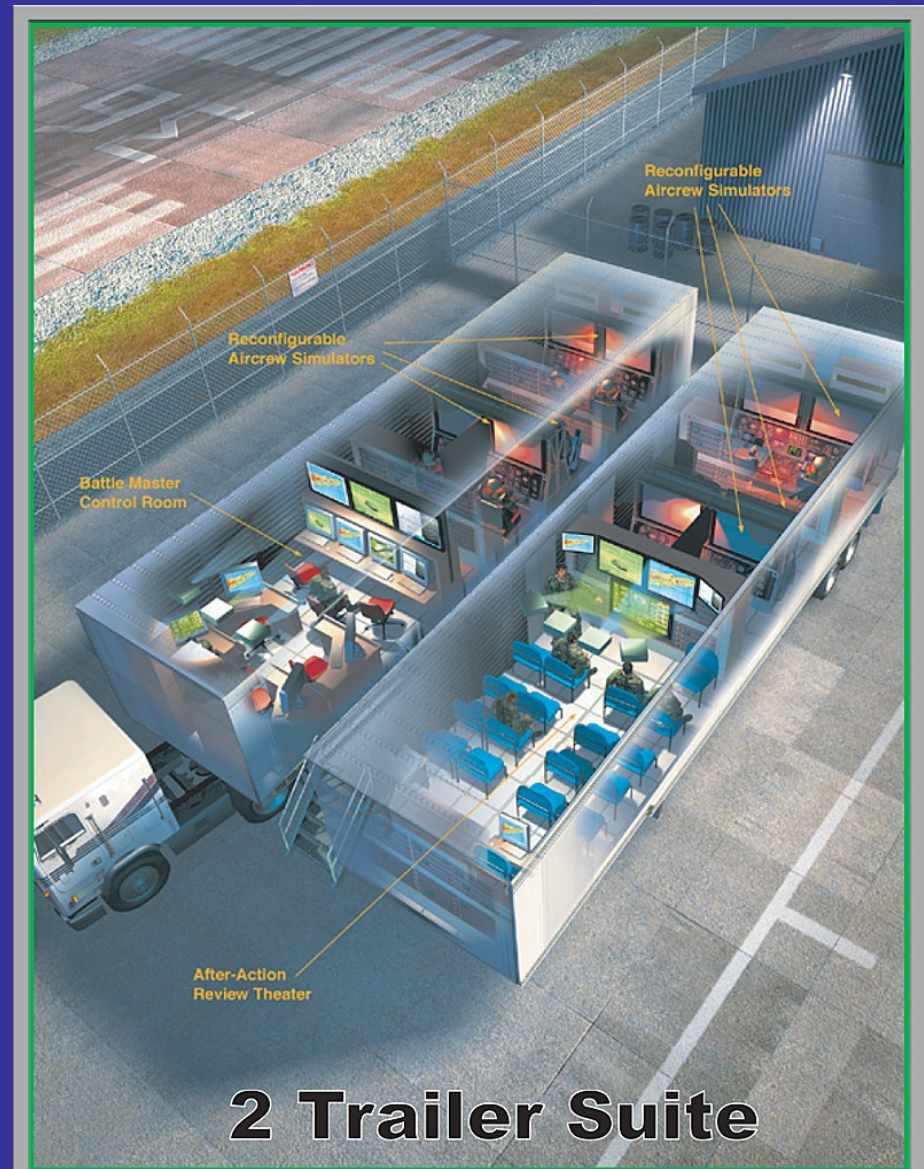
- **Semi-Automated Forces (SAF)**
- **Terrain Databases**
- **Validated Models and Algorithms**
- **Network Design and Protocols**
- **Training Support Packages**



AVCATT-A System



Combined arms collective training and mission rehearsal system operating in a simulated battlefield. Affordable and enhanced capability to train for joint air/ground arms operations. Supports institutional, organizational, and





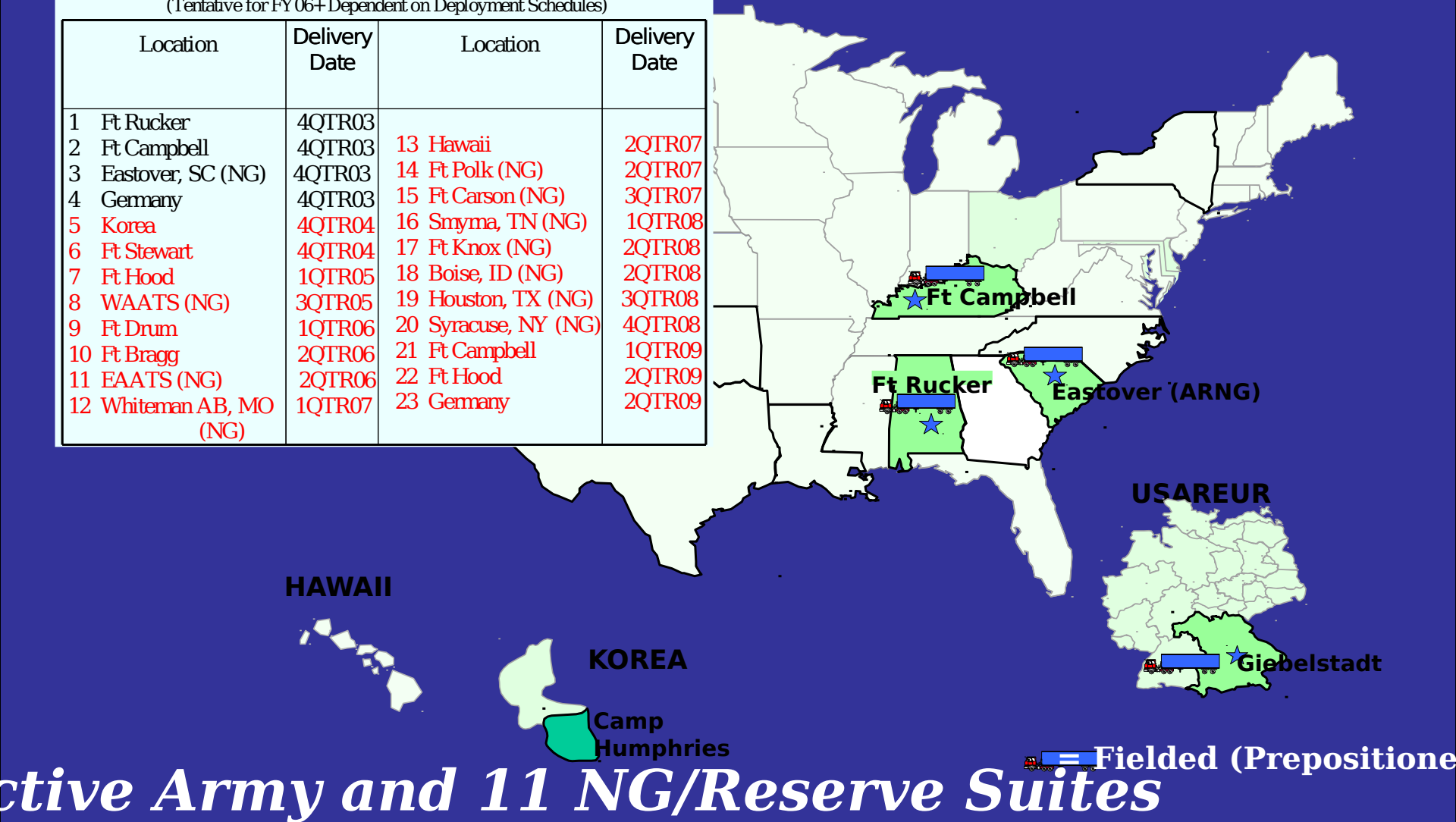
AVCATT-A Fielding Plan



AVCATT-A Distribution List

(Tentative for FY 06+ Dependent on Deployment Schedules)

Location	Delivery Date	Location	Delivery Date
1 Ft Rucker	4QTR03	13 Hawaii	2QTR07
2 Ft Campbell	4QTR03	14 Ft Polk (NG)	2QTR07
3 Eastover, SC (NG)	4QTR03	15 Ft Carson (NG)	3QTR07
4 Germany	4QTR03	16 Smyrna, TN (NG)	1QTR08
5 Korea	4QTR04	17 Ft Knox (NG)	2QTR08
6 Ft Stewart	4QTR04	18 Boise, ID (NG)	2QTR08
7 Ft Hood	1QTR05	19 Houston, TX (NG)	3QTR08
8 WAATS (NG)	3QTR05	20 Syracuse, NY (NG)	4QTR08
9 Ft Drum	1QTR06	21 Ft Campbell	1QTR09
10 Ft Bragg	2QTR06	22 Ft Hood	2QTR09
11 EAATS (NG)	2QTR06	23 Germany	2QTR09
12 Whiteman AB, MO (NG)	1QTR07		



Active Army and 11 NG/Reserve Suites



AVCATT-A



Description/Requirement

What We Have:

- **Baseline AVCATT-A System In Production (L3COM)**
- **Multiple Terrain Databases (TDBs)**

What We Need:

- **Expanded Capabilities**



AVCATT-A



Expanded Capabilities

- **Unmanned Aerial Vehicle (UAV) to Aircraft Interface**
- **Classified Operations**
- **Portable Flight Planning System (PFPS)**
- **L-V-C Interoperable**
- **Motion Cueing for Manned Modules**
- **Fixed Facility**
- **Mobile Power Source**
- **Upgraded Helmets**
- **Deployable to remote locations**



AVCATT-A



Acquisition Strategy

- **Acquisition Strategy Under Review**
- **Subcontracting Opportunities May Exist With the AVCATT-A Prime Manufacturer**

Contract: L3COM

Value: > \$150M

Existing Contract with Production Options

Time: FY05-FY11



AVCATT-A Concurrency



Concurrency Description/Requirement

What We Have:

Baseline AVCATT-A System With:

- AH-64A Apache
- AH-64D Longbow (Lot 4)
- OH-58D Kiowa Warrior (CDS 2)
- UH-60A/L

What We Need:

Aircraft Concurrency

- Longbow Block II/III
- CH-47 F
- UH-60 M
- ARH/ LUH TBD

Technical Concurrency (Prevent Technical Obsolescence)



AVCATT-A Concurrency



Acquisition Strategy

**STOC competition for Future
Concurrency Upgrades
(hardware/software)**

**Subcontracting opportunities may exist
with the AVCATT-A Prime manufacturer
L3COM; and/or Government May Initiate
Separate Contracts for Specific
Capabilities**

Value: >\$30M

Time: FY05-FY09 (excludes APH/LLH &



ARH/LUH



Description/Requirement

What We Have:

- Emerging Requirements for Armed Recon Helicopter (ARH)/ Light Utility Helicopter (LUH)

What We Need:

- TBD (Based on User Need).
Anticipate Individual/Collective and Maintenance Trainers/Simulators .



ARH/LUH



Acquisition Strategy

- **TBD (To Be Based on User Requirements)**
- **Anticipate STOC Award to Facilitate Rapid Acquisition**

Contract: STOC

**Value: > \$75M
(Projected)**

**Time: FY06-
FY11**



Project Manager Combined Arms Tactical Trainers

Advance Program Briefing to Industry

***Kevin S. Noonan
Project Manager***





PM CATT Points of Contact



The Contracting Officer is POC for Programs in Solicitation Phase

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04)



IS SIMULATION

*Facing the
Future...
...Together*